

COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD
REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9 VAC 5 CHAPTER 40.
EXISTING STATIONARY SOURCES.

PART I.
Special Provisions.

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9 VAC 5-40-10. Applicability.

A. The provisions of this chapter, unless specified otherwise, shall apply to existing sources for which emission standards are prescribed under this chapter.

B. The provisions of this chapter shall not apply to sources specified below except in cases where the provisions of this chapter (i) specifically provide otherwise or (ii) are more restrictive than the provisions of 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.), 9 VAC 5 Chapter 80 (9 VAC 5-80-10 et seq.), or any permit issued pursuant to 9 VAC 5 Chapter 80 (9 VAC 5-80-10 et seq.) Sources exempted under this subsection shall be subject to the provisions of 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) or 9 VAC 5 Chapter 60 (9 VAC 5-60-10 et seq.), or both, as applicable.

1. Any stationary source (or portion of it), the construction, modification or relocation of which commenced on or after March 17, 1972.

2. Any stationary source (or portion of it), the reconstruction of which commenced on or after December 10, 1976.

C. If a facility becomes subject to any requirement in the Regulations for the Control and Abatement of Air Pollution because it exceeds an exemption level, the facility shall continue to be subject to all applicable requirements even if future conditions cause the facility to fall below the exemption level.

D. Any owner subject to the provisions of this chapter may provide any report, notification or other document by electronic media if acceptable to both the owner and board. This subsection shall not apply to documents requiring signatures or certification under 9 VAC 5-20-230.

9 VAC 5-40-20. Compliance.

A. Ninety days after the effective date of any emission standard prescribed under this chapter, no owner or other person shall operate any existing source in violation of such standard.

1. Compliance with standards in this chapter, other than opacity standards, shall be determined by emission tests established by 9 VAC 5-40-30, unless specified otherwise in the applicable standard.

2. Compliance with federal requirements in this chapter may be determined by alternative or equivalent methods only if approved by the administrator. For purposes of this subsection, federal requirements consist of the following:

a. New source performance standards established pursuant to § 111 of the federal Clean Air Act.

b. All terms and conditions in a federal operating permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable.

c. Limitations and conditions that are part of an implementation plan.

d. Limitations and conditions that are part of a § 111(d) or § 111(d)/129 plan.

e. Limitations and conditions that are part of a federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by EPA in accordance with 40 CFR Part 51.

f. Limitations and conditions that are part of an operating permit issued pursuant to a program approved by EPA into an implementation plan as meeting EPA's minimum criteria for federal enforceability, including adequate notice and opportunity for EPA and public comment prior to issuance of the final permit and practicable enforceability.

3. Compliance with opacity standards in this chapter may be determined by one or more of the following means:

a. Conducting observations in accordance with Reference Method 9 or any alternative method approved by EPA. For purposes of determining initial compliance, the minimum total time of observations shall be three hours (30 six-minute averages) for the emission test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard). Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards.

b. Evaluation of data resulting from use of continuous monitoring by transmissometer, provided the instrument used meets Performance Specification 1 in Appendix B of 40 CFR Part 60 and has been properly maintained and that the resulting data have not been altered in any way.

c. Use of any other method approved by EPA.

4. The opacity standards prescribed under this chapter shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard. This exception shall not apply to the following federal requirements:

a. Limitations and conditions that are part of an implementation plan.

b. Limitations and conditions that are part of a federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by EPA in accordance with 40 CFR Part 51.

c. Limitations and conditions that are part of an operating permit issued pursuant to a program approved by EPA into an implementation plan as meeting EPA's minimum criteria for federal enforceability, including adequate notice and opportunity for EPA and public comment prior to issuance of the final permit and practicable enforceability.

B. No owner of an existing source subject to the provisions of this chapter shall fail to conduct emission tests as required under this chapter.

C. No owner of an existing source subject to the provisions of this chapter shall fail to install, calibrate, maintain and operate equipment for continuously monitoring and recording emissions or process parameters or both as required under this chapter.

D. No owner of an existing source subject to the provisions of this chapter shall fail to provide notifications and reports, revise reports, maintain records or report emission test or monitoring results as required under this chapter.

E. At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

F. At all times the disposal of volatile organic compounds shall be accomplished by taking measures, to the extent practicable, consistent with air pollution control practices for minimizing emissions. Volatile organic compounds shall not be intentionally spilled, discarded in sewers which are not connected to a treatment plant, or stored in open containers or handled in any other manner that would result in evaporation beyond that

consistent with air pollution control practices for minimizing emissions.

G. The following provisions apply with respect to demonstrating compliance with opacity standards.

1. For the purpose of demonstrating initial compliance, opacity observations shall be conducted concurrently with the initial emission test unless one of the following conditions apply.

a. If no emission test is required, then opacity observations shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated but no later than 180 days after the compliance date.

b. If visibility or other conditions prevent the opacity observations from being conducted concurrently with the initial emission test, the owner shall reschedule the opacity observations as soon after the initial emission test as possible, but not later than 30 days thereafter, and shall advise the board of the rescheduled date. In these cases, the 30-day prior notification to the board required by 9 VAC 5-40-50 A 3 shall be waived. The rescheduled opacity observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial emission test. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity observations from being made concurrently with the initial emission test in accordance with procedures contained in Reference Method 9.

Opacity readings of portions of plumes which contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The owner of an affected facility shall make available, upon request by the board, such records as may be necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification. The results of continuous monitoring by transmissometer which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided the source meets the burden of proving that the instrument used meets (at the time of the alleged violation) Performance Specification 1 in Appendix B of 40 CFR Part 60 and has been properly maintained and (at the time of the alleged violation) that the resulting data have not been altered in any way.

2. Except as provided in subdivision 3 of this subsection, the owner of an affected facility to which an opacity standard in this chapter applies shall conduct opacity observations in accordance with subsection A 3 of this section, shall record the opacity of emissions, and shall report to the board the opacity results along with the results of the initial emission test. The inability of an owner to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial emission test.

3. The owner of an affected facility to which an opacity standard in this chapter applies may request the board to determine and to record the opacity of emissions from the affected facility during the initial emission test and at such times as may be

required. The owner of the affected facility shall report the opacity results. Any request to the board to determine and to record the opacity of emissions from an affected facility shall be included in the notification required in 9 VAC 5-40-50 A 3. If, for some reason, the board cannot determine and record the opacity of emissions from the affected facility during the emission test, then the provisions of subdivision 1 of this subsection shall apply.

4. An owner of an affected facility using a continuous opacity monitor (transmissometer) shall record the monitoring data produced during the initial emission test and shall furnish the board a written report of the monitoring results along with the Reference Method 9 and initial emission test results.

H. The following provisions apply with respect to new or more stringent emission standards.

1. The following provisions apply with respect to emission standards for volatile organic compounds.

a. In the case of any emission standard for volatile organic compounds adopted by the board which is more stringent than the emission standard for the source in effect prior to such adoption, if any, or where there was no emission standard, the source shall not be considered in violation of the newly adopted emission standard provided that the owner accomplishes the following:

(1) Complies with the emission standard as expeditiously as possible but in no case later than one year after the effective date of the emission standard.

(2) Within one month of achieving compliance, notifies the board of same.

(3) Within six months of achieving compliance, demonstrates to the satisfaction of the board compliance with the emission standard.

b. The reprieve provided by subdivision 1 a of this subsection shall only apply in cases where it is necessary for the owner to:

(1) Install emission control equipment or other equipment that alters the facility in order to comply with the emission standard; or

(2) Switch fuel or raw materials or both in order to comply with the emission standard.

c. Owners of sources not in compliance with the newly adopted emission standard, but in compliance with the provisions of subdivision 1 a of this subsection shall not be subject to any penalties for violation of the newly adopted emission standard that may be required by the Virginia Air Pollution Control Law.

d. Any reprieve from the sanctions of any provision of the Virginia Air

Pollution Control Law pursuant to subdivision 1 a of this subsection shall not extend beyond the date by which compliance is to be achieved.

e. Nothing in subdivision 1 a of this subsection shall prevent the board from promulgating a separate compliance schedule for any source if the board finds that it is technologically infeasible or it is infeasible due to the nonavailability of necessary equipment or materials or other circumstances beyond the owner's control for the source to achieve compliance within one year of the effective date of an emission standard.

f. All compliance schedules proposed or prescribed under this section shall provide for compliance with the applicable emission standards as expeditiously as practicable.

g. Any compliance schedule approved under this subsection may be revoked at any time if the source owner does not meet the stipulated increments of progress, and if the failure to meet an increment is likely to result in failure to meet the date for final compliance, and the failure to meet the increment is due to causes within the owner's control.

2. The following provisions apply with respect to emission standards for pollutants other than volatile organic compounds.

a. In the case of any emission standard adopted by the board which is more stringent than the emission standard for the source in effect prior to such adoption, if any, or where there was no emission standard, the source shall not be considered in violation of the newly adopted emission standard provided that the owner accomplishes the following:

(1) Submits in a form and manner satisfactory to the board, a control program showing how compliance shall be achieved within the time frame in the applicable compliance schedule prescribed under 9 VAC 5-40-21; or, where no applicable compliance schedule is prescribed under 9 VAC 5-40-21, how compliance shall be achieved as expeditiously as possible; but in no case later than three years after the effective date of such emission standard.

(2) Receives approval of the board of such control program.

(3) Complies with all provisions, terms and conditions of the control program including the increments of progress.

b. The reprieve provided by subdivision 2 a of this subsection shall only apply in cases where it is necessary for the owner to:

(1) Install emission control equipment or other equipment that alters the facility in order to comply with the emission standard; or

(2) Switch fuel or raw materials or both in order to comply with the emission standard.

c. Owners of sources not in compliance with the newly adopted emission standard, but in compliance with the provisions of subdivision 2 a of this subsection shall not be subject to any penalties for violation of the newly adapted emission standard that may be required by the Virginia Air Pollution Control Law.

d. Any reprieve from the sanctions of any provision of the Virginia Air Pollution Control Law pursuant to subdivision 2 a of this subsection shall not extend beyond the date, specified in the emission standard or approved control program, by which compliance is to be achieved.

e. Control programs submitted under the provisions of subdivision 2 a of this subsection shall be processed in accordance with the provisions of 9 VAC 5-20-170. However, if the control program contains a compliance schedule which conforms to the applicable schedule prescribed in 9 VAC 5-40-21, the public hearing provision of 9 VAC 5-20-170 shall not apply.

f. Nothing in this section shall prevent the board from promulgating a separate compliance schedule for any source if the board finds that the application of a compliance schedule in 9 VAC 5-40-21 is technologically infeasible, or if the board finds that the application of a compliance schedule in 9 VAC 5-40-21 is infeasible due to the nonavailability of necessary equipment or materials or other circumstances beyond the owner's control.

g. Nothing in this section shall prevent the owner of a source subject to a compliance schedule in 9 VAC 5-40-21 from submitting to the board a proposed alternative compliance schedule provided the following conditions are met:

(1) The proposed alternative compliance schedule is submitted within six months of the effective date of the emission standard;

(2) The final control plans for achieving compliance with the applicable emission standard are submitted simultaneously;

(3) The alternative compliance schedule contains the same increments of progress as the schedule for which it is proposed as an alternative; and

(4) Sufficient documentation is submitted by the owner of the source to justify the alternative dates proposed for the increments of progress.

h. All compliance schedules proposed or prescribed under this section shall provide for compliance with the applicable emission standards as expeditiously as practicable.

i. Any compliance schedule approved under this subsection may be revoked at any time if the source owner does not meet the stipulated increments of progress, and if the failure to meet an increment is likely to result in failure to meet the date for final compliance, and the failure to meet the increment is due to causes within the

owner's control.

j. The provisions of 9 VAC 5-40-21 shall not apply to owners of sources which are in compliance with the applicable emission standard and for which the owners have determined and certified compliance to the satisfaction of the board within 12 months of the effective date of the applicable emission standard.

I. The following provisions apply with respect to stack heights.

1. The degree of emission limitation required of any source owner for control of any air pollutant shall not be affected in any manner by:

a. So much of the stack height of any source as exceeds good engineering practice, or

b. Any other dispersion technique.

2. The provisions of subdivision 1 of this subsection shall not apply to:

a. Stack heights in existence, or dispersion techniques implemented on or before December 31, 1970, except where pollutants are being emitted from such stacks or using such dispersion techniques by sources, as defined in § 111(a)(3) of the federal Clean Air Act, which were constructed, or reconstructed, or for which major modifications, as defined in Article 8 (9 VAC 5-80-1700 et seq.) and Article 9 (9 VAC 5-80-2000 et seq.) of Part II of 9 VAC 5 Chapter 80, were carried out after December 31, 1970; or

b. Coal-fired steam electric generating units subject to the provisions of § 118 of the federal Clean Air Act, which commenced operation before July 1, 1957, and whose stacks were constructed under a construction contract awarded before February 8, 1974.

3. Prior to the adoption of a new or revised emission limitation that is based on a good engineering practice stack height that exceeds the height allowed by subdivision 1 or 2 of the GEP definition, the board shall notify the public of the availability of the demonstration study and shall provide the opportunity for public hearing on it.

4. For purposes of this subsection, such height shall not exceed the height allowed by subdivision 1 or 2 of the GEP definition unless the owner demonstrates to the satisfaction of the board, after 30 days notice to the public and opportunity for public hearing, that a greater height is necessary as provided under subdivision 3 of the GEP definition.

5. In no event may the board prohibit any increase in any stack height or restrict in any manner the maximum stack height of any source.

6. Compliance with emission standards in this chapter shall not be affected in any manner by the stack height of any source or any other dispersion technique.

J. For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in this chapter, nothing in this chapter shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate emission or compliance test or procedure had been performed.

9 VAC 5-40-21. Compliance schedules.

A. The provisions of this section are a supplement to and shall be applied in context with the provisions of 9 VAC 5-40-20 H 2.

B. Compliance by process and emission control equipment installations.

1. Owners proposing to comply with an emission standard by the installation and operation of emission control equipment or replacement process equipment or both shall adhere to the increments of progress contained in the following schedule:

a. Final plans for the installation and operation of emission control equipment or process equipment or both shall be submitted within six months of the effective date of the applicable emission standard.

b. Contracts for the installation of emission control equipment or process equipment shall be awarded, or orders shall be issued for purchase of component parts to accomplish installation, within 16 months of the effective date of the applicable emission standard.

c. Initiation of on-site construction for the installation of the emission control equipment or process equipment or both shall begin within 22 months of the effective date of the applicable emission standard.

d. On-site construction or installation of the emission control equipment or process equipment or both shall be completed within 30 months of the effective date of the applicable emission standard.

e. Final compliance, determined in accordance with test methods acceptable to the board, shall be achieved within 32 months of the effective date of the applicable emission standard.

2. Owners of sources subject to the compliance schedule in subdivision B 1 of this section shall certify to the board within five days after deadline for each increment of progress, whether the required increment of progress has been met.

C. Compliance by process equipment modification.

1. Owners proposing to comply with an emission standard by the modification of existing processing equipment shall adhere to the increments of progress

contained in the following schedule.

a. Final plans for the process equipment modification shall be submitted within six months of the effective date of the applicable emission standard.

b. Contracts for the process equipment modification shall be awarded, or orders shall be issued for the purchase of component parts to accomplish the process equipment modification, within 15 months of the effective date of the applicable emission standard.

c. Initiation of on-site construction for the modification of the process equipment shall begin within 18 months of the effective date of the emission standard.

d. On-site construction or installation of process modifications shall be completed within 22 months of the effective date of the applicable emission standard.

e. Final compliance, determined in accordance with test methods acceptable to the board, shall be achieved within 24 months of the effective date of the applicable emission standard.

2. Owners of sources subject to the compliance schedule in subdivision C 1 of this section shall certify to the board within five days after the deadline for each increment of progress, whether the required increment of progress has been met.

D. Compliance by use of process materials modification.

1. Except as provided under subdivision D 3 of this section, owners proposing to comply with an emission standard by the use of new process materials shall adhere to the increments of progress contained in the following schedule:

a. Final plans for the use of new process materials shall be submitted within six months of the effective date of the applicable emission standard.

b. Research and development of new process materials shall be completed within 18 months of the effective date of the applicable emission standard.

c. Evaluation of new process materials product quality and commercial acceptance shall be completed within 24 months of the effective date of the applicable emission standard.

d. Purchase orders shall be issued for new process materials and process modifications within 26 months of the effective date of the applicable emission standard.

e. Initiation of process modifications shall begin within 28 months of the effective date of the applicable emission standard.

f. Process modifications shall be completed and use of new process

materials shall begin within 34 months of the effective date of the applicable emission standard.

g. Final compliance, determined in accordance with test methods acceptable to the board, shall be achieved within 36 months of the effective date of the applicable emission standard.

2. Owners of sources subject to the compliance schedule in subdivision D 1 of this section shall certify to the board within five days after the deadline for each increment of progress, whether the required increment of progress has been met.

3. Where the board determines that the use of new process materials has been sufficiently researched and developed for a particular application, owners proposing to comply with an emission standard by the use of new process materials shall adhere to the increments of progress contained in the following schedule:

a. Final plans for the use of new process materials shall be submitted within six months of the effective date of the applicable emission standard.

b. Evaluation of new process materials product quality and commercial acceptance shall be completed within 16 months of the effective date of the applicable emission standard.

c. Purchase orders shall be issued for new process materials and process modifications within 18 months of the effective date of the applicable emission standard.

d. Initiation of process modifications shall begin within 22 months of the effective date of the applicable emission standard.

e. Process modifications shall be completed and use of new process materials shall begin within 30 months of the effective date of the applicable emission standard.

f. Final compliance, determined in accordance with test methods acceptable to the board, shall be achieved within 32 months of the effective date of the applicable emission standard.

4. Owners of sources subject to the compliance schedule in subdivision D 3 of this section shall certify to the board within five days after deadline for each increment of progress, whether the required increment of progress has been met.

9 VAC 5-40-22. Interpretation of emission standards based on process weight rate tables.

A. General.

Unless otherwise approved by the board, interpretation of emission standards based on process weight rate tables shall be in accordance with this section.

B. Definitions.

1. For the purpose of these regulations and subsequent amendments of any orders issued by the board, the words or terms shall have the meaning given them in subdivision B 3 of this section.

2. As used in this section, all terms not defined here shall have the meaning given them in 9 VAC 5 Chapter 10 (9 VAC 5-10-10 et seq.), unless otherwise required by context.

3. Terms defined.

"Manufacturing operation" means any process operation or combination of physically connected dissimilar process operations which is operated to effect physical or chemical changes, or both, in an article.

"Materials handling equipment" means any equipment used as a part of a process operation or combination of process operations which does not effect a physical or chemical change in the material or in an article, such as, but not limited to, conveyors, elevators, feeders or weighers.

"Physically connected" means any combination of process operations connected by materials handling equipment and designed for simultaneous complementary operation.

"Process operations" means any method, from, action, operation or treatment of manufacturing or processing, including any storage or handling of materials or products before, during or after manufacturing or processing.

"Process unit" means any step in a manufacturing or process operation which results in the emission of pollutants to the atmosphere.

"Process weight" means total weight of all materials introduced into any process unit which may cause any emission of pollutants. Process weight includes solid fuels charged, but does not include liquid and gaseous fuels charged or combustion air for all fuels.

"Process weight rate" means a rate established as follows:

(1) For continuous or long-run steady-state process operations, the total process weight for the entire period of continuous operation or for a typical portion of it, divided by the number of hours of such period or portion of it.

(2) For cyclical or batch process operations, the total weight for a period that covers a complete operation or an integral number of cycles, divided by the hours of actual process operation during such a period.

"Production rate" means the weight of final product obtained per hour of operation. If the rate of product going to storage can vary, the production rate shall be determined by calculation from the feed rates of raw material.

C. Interpretation of standards.

1. The total process weight rate for each individual process unit at a plant or premises shall be used for determining the maximum allowable emission rate of particulate that passes through a stack or stacks.

2. Unless otherwise specified, the allowable particulate mass emission rate shall be determined for individual units of equipment.

3. Unless otherwise specified or unless an equation is provided, the particulate emission limit above the maximum process weight rate shall be determined by linear interpolation. For interpolation between two values on a process weight rate table the following equation should be used:

$$E = [E_G - E_L] \left[\frac{P - P_L}{P_G - P_L} \right] + E_L$$

where:

E = emission rate being calculated.

E_L = emission rate for P_L as determined from the process weight rate table.

E_G = emission rate for P_G as determined from the process weight rate table.

P = process weight rate of the unit.

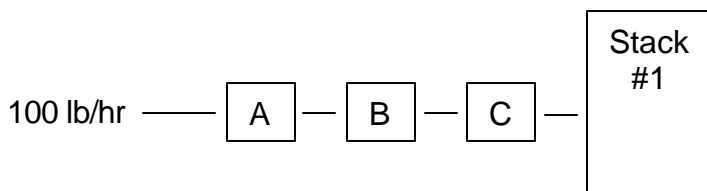
P_L = process weight rate in the process weight rate table which is closest to but less than the process weight rate of the unit.

P_G = process weight rate listed in the process weight rate table which is closest to but greater than the process weight rate of the unit.

4. Where the nature of any process or design of any equipment is such as to permit more than one interpretation of a regulation, the interpretation that results in the minimum value for allowable emissions shall apply.

5. The following are examples that illustrate how the requirements apply to similar units manifolded to a common stack and a number of process units that are combined in a row. (For the purposes of this illustration an emission rate of 0.551 pounds per hour for a process weight rate of 100 pounds per hour was used.)

EXAMPLE 1



where:

A = Process A (does not emit)

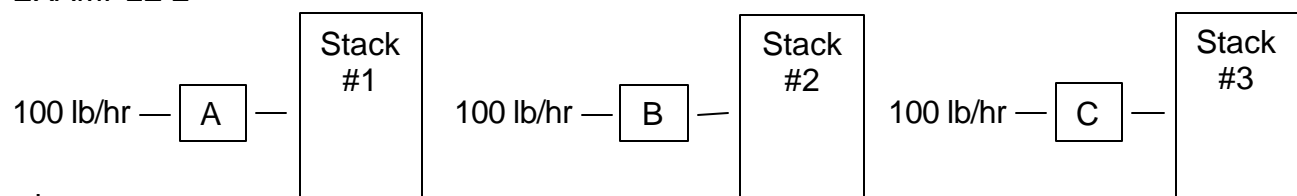
B = Process B (does not emit)

C = Process C (emits)

Process allowable weight = 100 lb/hr

Allowable emission rate for stack #1 = 0.551 lb/hr

EXAMPLE 2



where:

A = Process A (emits)

B = Process B (emits)

C = Process C (emits)

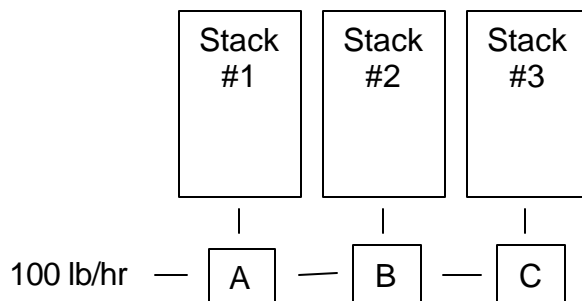
Process allowable weight = 100 lb/hr

Allowable emission rate for stack #1 = 0.551 lb/hr

Allowable emission rate for stack #2 = 0.551 lb/hr

Allowable emission rate for stack #3 = 0.551 lb/hr

EXAMPLE 3



where:

A = Process A (emits)

B = Process B (emits)

C = Process C (emits)

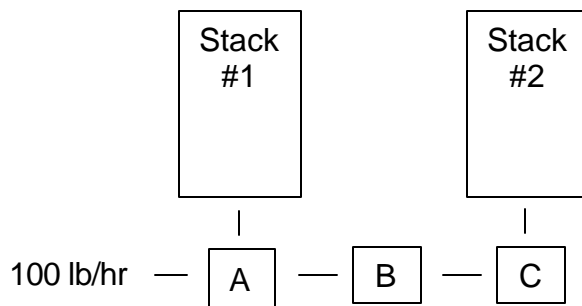
Process allowable weight = 100 lb/hr

Allowable emission rate for stack #1 = 0.551 lb/hr

Allowable emission rate for stack #2 = 0.551 lb/hr

Allowable emission rate for stack #3 = 0.551 lb/hr

EXAMPLE 4



where:

A = Process A (emits)

B = Process B (does not emit)

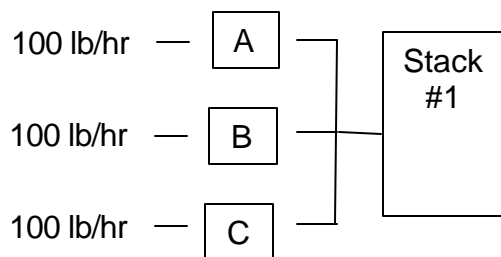
C = Process C (emits)

Process allowable weight = 100 lb/hr

Allowable emission rate for stack #1 = 0.551 lb/hr

Allowable emission rate for stack #2 = 0.551 lb/hr

EXAMPLE 5



where:

A = Process A (emits)

B = Process B (emits)

C = Process C (emits)

Process allowable weight = 100 lb/hr

0.551 lb/hr

0.551 lb/hr

0.551 lb/hr

Allowable emission rate for stack #1 = 1.653 lb/hr

9 VAC 5-40-30. Emission testing.

A. Emission tests for existing sources shall be conducted and reported, and data shall be reduced as set forth in this chapter and in the appropriate reference methods unless the board (i) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology; (ii) approves the use of an equivalent method; (iii) approves the use of an alternative method the results of which the board has determined to be adequate for indicating whether a specific source is in compliance; (iv) waives the requirement for emission tests because the owner of a source has demonstrated by other means to the board's satisfaction that the affected facility is in compliance with the standard; or (v) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. In cases where no appropriate reference method exists for an existing source subject to an emission standard for volatile organic compounds, the applicable test method in 9 VAC 5-20-121 may be considered appropriate.

B. Emission testing for existing sources shall be subject to testing guidelines approved by the board. Procedures may be adjusted or changed by the board to suit specific sampling conditions or needs based upon good practice, judgement and experience. When such tests are adjusted, consideration shall be given to the effect of such change on established emission standards. Tests shall be performed under the direction of persons whose qualifications are acceptable to the board.

C. Emission tests for existing sources shall be conducted under conditions which the board shall specify to the owner, based on representative performance of the source. The owner shall make available to the board such records as may be necessary to determine the conditions of the emission tests. Operations during periods of startup, shutdown and malfunction shall not constitute representative conditions for the purpose of an emission test. During the initial emission test, emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

D. An owner may request that the board determine the opacity of emissions from an existing source during the emission tests required by this section.

E. Each emission test for an existing source shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions acceptable to the board. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost, or if conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other circumstances beyond the owner's control, compliance may, upon the approval of the board, be determined using the arithmetic mean of the results of the two other runs.

F. The board may test emissions of air pollutants from any existing source. Upon request of the board the owner shall provide, or cause to be provided, emission testing facilities as follows:

1. Sampling ports adequate for test methods applicable to such source. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct with acceptable flow characteristics during emission tests, as demonstrated by applicable test methods and procedures.

2. Safe sampling platforms.

3. Safe access to sampling platforms.

4. Utilities for sampling and testing equipment.

G. Upon request of the board the owner of any existing source subject to the provisions of this chapter shall conduct emission tests in accordance with procedures approved by the board.

9 VAC 5-40-40. Monitoring.

A. Unless otherwise approved by the board, owners of existing sources specified in the applicable emission standard shall install, calibrate, maintain and operate systems for continuously monitoring and recording emissions of specified pollutants. However, nothing in this chapter shall exempt any owner from complying with subsection F of this section.

B. All continuous monitoring systems and monitoring devices shall be installed and operational by July 5, 1983. Verification of operational status shall, as a minimum, consist of the completion of the conditioning period specified by applicable requirements in Appendix B of 40 CFR Part 60.

C. Within 30 days after the date set forth in subsection B of this section and at such other times as may be requested by the board, the owner of any existing source shall

conduct continuous monitoring system performance evaluations and furnish the board within 60 days of them two or, upon request, more copies of a written report of the results of such tests.

D. Unless otherwise approved by the board, all continuous monitoring systems required by subsection A of this section shall be installed, calibrated, maintained and operated in accordance with applicable requirements in this section, 9 VAC 5-40-41, and the applicable emission standard.

E. After receipt and consideration of written application, the board may approve alternatives to any monitoring procedures or requirements of this chapter including, but not limited to, the following:

1. Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this chapter would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases.

2. Alternative monitoring requirements when the source is infrequently operated.

3. Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.

4. Alternative locations for installing continuous monitoring systems or monitoring devices when the owner can demonstrate the installation at alternate locations will enable accurate and representative measurements.

5. Alternative methods of converting pollutant concentration measurements to units of the standards.

6. Alternative procedures for computing emission averages that do not require integration of data (e.g., some facilities may demonstrate that the variability of their emissions is sufficiently small to allow accurate reduction of data based upon computing averages from equally spaced data points over the averaging period).

7. Alternative monitoring requirements when the effluent from a single source or the combined effluent from two or more sources are released to the atmosphere through more than one point.

8. Alternative procedures for performing calibration checks.

9. Alternative monitoring requirements when the requirements of this section would impose an extreme economic burden on the owner.

10. Alternative monitoring requirements when the continuous monitoring systems cannot be installed due to physical limitations at the source.

11. Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1 of Appendix B of 40 CFR Part 60, but which adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1 of Appendix B of 40 CFR Part 60. The board may require that such demonstration be performed for each source.

12. Alternative monitoring systems that meet the requirements of 40 CFR Part 75 (i) if a source is subject to 40 CFR Part 75 or (ii) if the board determines that the requirements of 40 CFR Part 75 are more appropriate for the source than the pertinent provisions of this chapter.

F. Upon request of the board, the owner of an existing source subject to the provisions of this chapter shall install, calibrate, maintain and operate equipment for continuously monitoring and recording emissions or process parameters or both in accordance with methods and procedures acceptable to the board.

9 VAC 5-40-41. Emission monitoring procedures for existing sources.

A. The provisions of this section shall apply to existing sources. These provisions may also apply, at the discretion of the board, to new and modified sources if the source type is not subject to Article 5 (9 VAC 5-50-400 et seq.) of Part II of 9 VAC 5 Chapter 50.

B. General procedures.

1. Continuous monitoring system performance evaluations shall be conducted in accordance with the requirements and procedures contained in the applicable performance specification in Appendix B of 40 CFR 60 as follows:

a. Continuous monitoring systems for measuring opacity of emissions shall comply with performance specification 1.

b. Continuous monitoring systems for measuring nitrogen oxides emissions shall comply with performance specification 2.

c. Continuous monitoring systems for measuring sulfur dioxide emissions shall comply with performance specification 2.

d. Continuous monitoring systems for measuring oxygen content or carbon dioxide content of effluent gases shall comply with performance specification 3.

2. Owners of all continuous monitoring systems installed in accordance with the provisions of this section shall check the zero and span drift at least once daily in accordance with the method prescribed by the manufacturer of such systems unless the manufacturer recommends adjustments at shorter intervals, in which case such recommendations shall be followed. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour calibration drift limits of the applicable

performance specifications in Appendix B of 40 CFR 60 are exceeded. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero or span drift adjustment except that for systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity. Unless otherwise approved by the board, the following procedures, as applicable, shall be followed:

a. For extractive continuous monitoring systems measuring gases, minimum procedures shall include introducing applicable zero and span gas mixtures into the measurement system as near the probe as is practical. Span and zero gases certified by their manufacturer to be traceable to National Bureau of Standards reference gases shall be used whenever these reference gases are available. The span and zero gas mixtures shall be the same composition as specified in Appendix B of 40 CFR 60. Every six months from date of manufacturer, span and zero gases shall be reanalyzed by conducting triplicate analyses with Reference Methods 6 for SO₂, 7 for NO_x, and 3 for O₂ and CO₂, respectively. The gases may be analyzed at less frequent intervals if longer shelf lives are guaranteed by the manufacturer.

b. For nonextractive continuous monitoring systems measuring gases, minimum procedures shall include upscale checks using a certified calibration gas cell or test cell which is functionally equivalent to a known gas concentration. The zero check may be performed by computing the zero value from upscale measurements or by mechanically producing zero condition.

c. For continuous monitoring systems measuring opacity of emissions, minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

3. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under subdivision B 2 of this section, all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

a. All continuous monitoring systems for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 15-second period and one cycle of data recording for each successive six-minute period.

b. All continuous monitoring systems for measuring nitrogen oxides, sulfur dioxide, carbon dioxide or oxygen shall complete a minimum of one cycle of operation (sampling, analyzing and data recording) for each successive 15-minute period.

c. All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous

monitoring systems contained in the applicable performance specifications in Appendix B of 40 CFR 60 shall be used.

5. When the effluents from a single affected facility or two or more affected facilities subject to the same standards are combined before being released to the atmosphere, the owner may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner shall install applicable continuous monitoring systems on each separate effluent unless the installation of fewer systems is approved by the board.

6. Owners of all continuous monitoring systems for measurement of opacity shall reduce all data to six-minute averages for six-minute periods and for systems other than opacity to one-hour averages for one-hour periods. Six-minute opacity averages shall be calculated from 24 or more data points spaced at approximately equal intervals over each six-minute period. For systems other than opacity, one-hour averages shall be computed from four or more data points spaced at approximately equal intervals over each one-hour period. Data recorded during periods of system breakdowns, repairs, calibration checks and zero and span adjustments shall not be included in the data averages computed under this subdivision. An arithmetic or integrated average of all data may be used. The data output of all continuous monitoring systems may be recorded in reduced or nonreduced form (e.g. ppm pollutant and percent O₂ of lb or pollutant per million Btu). All excess emissions should be converted into units of the standard using the applicable conversion procedures specified in the applicable standard. After conversion into units of the standard, the data may be rounded to the same number of significant digits used to specify the applicable standard (e.g., rounded to the nearest one percent opacity).

C. Specific procedures.

Specific procedures for emission monitoring may be found in the rule covering the source type in question.

9 VAC 5-40-50. Notification, records and reporting.

A. Any owner of an existing source subject to the provisions of this chapter shall provide written notifications to the board of the following:

1. The date upon which demonstration of the continuous monitoring system performance begins in accordance with 9 VAC 5-40-40 C. Notification shall be postmarked not less than 30 days prior to such date.

2. The date of any emission test the owner wishes the board to consider in determining compliance with a standard. Notification shall be postmarked not less than 30 days prior to such date.

3. The anticipated date for conducting the opacity observations required by 9 VAC 5-40-20 G 1. The notification shall also include, if appropriate, a request for the

board to provide a visible emissions reader during an emission test. The notification shall be postmarked not less than 30 days prior to such date.

B. Any owner of an existing source subject to the provisions of 9 VAC 5-40-40 A shall maintain records of the occurrence and duration of any startup, shutdown or malfunction in the operation of such source; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

C. Each owner required to install a continuous monitoring system (CMS) or monitoring device shall submit a written report of excess emissions (as defined in the applicable emission standard) and either a monitoring systems performance report or a summary report form, or both, to the board semiannually, except when (i) more frequent reporting is specifically required by an applicable emission standard or the CMS data are to be used directly for compliance determination, in which case quarterly reports shall be submitted; or (ii) the board, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The summary report and form shall meet the requirements of 40 CFR 60.7(d). The frequency of reporting requirements may be reduced as provided in 40 CFR 60.7(e). All reports shall be postmarked by the 30th day following the end of each calendar half (or quarter, as appropriate). Written reports of excess emissions shall include the following information:

1. The magnitude of excess emissions computed in accordance with 9 VAC 5-40-41 B 6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions. The process operating time during the reporting period.

2. Specific identification of each period of excess emissions that occurs during startups, shutdowns and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

4. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.

D. Any owner of an existing source subject to the provisions of this chapter shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and emission testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this chapter recorded in a permanent form suitable for inspection. The file shall be retained for at least two years (unless a longer period is specified in the applicable standard) following the date of such measurements, maintenance, reports and records.

E. Any data or information required by the Regulations for the Control and Abatement of Air Pollution, any permit or order of the board, or which the owner wishes the board to consider, to determine compliance with an emission standard shall be recorded or maintained in a time frame consistent with the averaging period of the standard.

F. The owner of a stationary source shall keep records as may be necessary to determine its emissions. Any owner claiming that a facility is exempt from the provisions of the Regulations for the Control and Abatement of Air Pollution shall keep records as may be necessary to demonstrate to the satisfaction of the board its continued exempt status.

G. The owner of an existing source subject to any emission standard in Article 26 (9 VAC 5-40-3560 et seq.) through Article 36 (9 VAC 5-40-5060 et seq.) of Part II of 9 VAC 5 Chapter 40 shall maintain records in accordance with the applicable procedure in 9 VAC 5-20-121.

H. Upon request of the board, the owner of an existing source subject to the provisions of this chapter shall provide notifications and report, revise reports, maintain records or report emission test or monitoring result in a manner and form and using procedures acceptable to board.

HISTORICAL NOTES:

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